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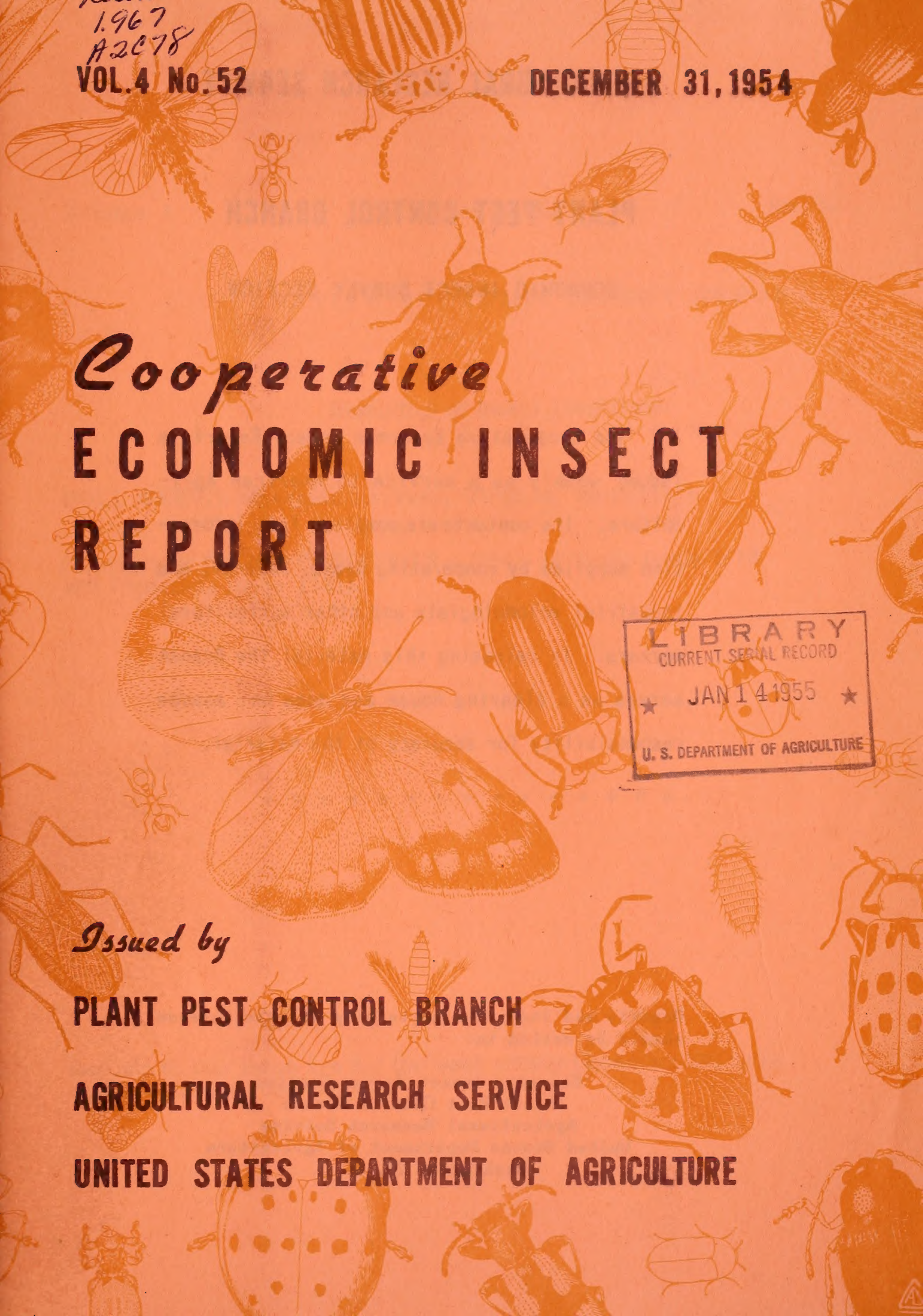

VOL.4 No.52 DECEMBER 31, 1954

Cooperative
ECONOMIC INSECT REPORT

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PLANT PEST CONTROL BRANCH
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

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PLANT PEST CONTROL BRANCH

ECONOMIC INSECT SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Branch serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 4 December 31, 1954 No. 52

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

BOLL WEEVIL hibernation survey, Virginia. (page 1111).

Summary of INSECT CONDITIONS - 1954 - in Texas (page 1113 and Wisconsin (page 1121).

* *

Reports in this issue are for the week ending December 24, 1954, unless otherwise designated.

WEATHER FOR THE WEEK ENDING DECEMBER 27, 1954

The past week was unusually mild for the season in the central interior but colder than normal in the Atlantic coastal states and west of the Continental Divide. Precipitation, deficient nearly everywhere, totalled one-half inch or more only in eastern New England, a few scattered localities in the Mississippi Valley and along the north Pacific Coast above Eureka, California. In the extreme northern Great Plains temperatures for the past two weeks have averaged 15 degrees or more above normal and unseasonably warm weather has generally prevailed there since November 1, 1954. Highest temperatures occurred in this region at the beginning of the period when maxima rose to 63 degrees at Rapid City, South Dakota, and 57 degrees at Havre, Montana. In contrast the week was 5 degrees to as much as 10 degrees colder than normal in the Southeast where abnormally cold weather has been the rule since November 22. Lowest temperatures in this region were recorded early in the week when minima in the 20's extended into central Florida and frost occurred as far south as the Everglades. Freezing was nationwide at the beginning of the period except in a few extreme southern areas and along the Pacific Coast below San Francisco but subzero minima were generally limited to the central Great Basin of the far West and upper portion of the Rockies, the Mississippi Valley and Great Lakes region at the beginning and end of the period and also in upper New York and New England during the closing days.

The Southeast, Southwest and Great Plains region received little or no precipitation, drought continued to grip the western portion of the central and lower Great Plains where pastures remained in poor condition, grain made little or no progress, water supplies continued extremely low in many localities and the loose dry soil remained extremely vulnerable to strong winds. Some soil blowing occurred in western Nebraska and eastern Colorado the first part of the week, damaging grains and pastures in some sections. Snowfall was generally light and of very limited extent last week and the cover at the end of the previous week disappeared, except in mountainous and extreme northern areas. Depths, however, increased in a few northern localities. Light to moderate snow was falling in the western portion of the central Great Plains and a few localities of the upper Great Lakes at the end of the period, 6 inches having fallen at Denver, Colorado in a 24-hour period ending at 7:30 A. M. December 27. (Summary Supplied by U. S. Weather Bureau).

TRUCK CROP INSECTS

CORN EARWORM (Heliothis armigera) - GEORGIA - Damaged a 10-acre field of sweetpotatoes in the Rutland district of Bibb County, October 19. Tubers that were exposed before digging were extensively injured by larvae. Damage consists of external feeding and tunnelling throughout the tuber. (Brightwell).

COTTON INSECTS

PINK BOLLWORM (Pectinophora gossypiella) - Gin trash inspection was completed in Pinal and Maricopa Counties of Arizona on December 16 which completed this type of inspection for this season. Work in Imperial and Riverside Counties of California was completed on December 10. Results continued negative in California and the free counties of Arizona. The three counties in Arkansas remained the only counties outside the quarantined area found infested this year. Boll inspections were made in Arizona, Arkansas, California, New Mexico, Oklahoma, and Texas. The most noteworthy finding to date has been a light but general infestation around Solomon, Graham County, Arizona. Inspection of lint cleaners has been continued in Arizona, New Mexico, Oklahoma and Texas. Although pink bollworms were found in all four states the number is decreasing as the season nears its end. (PBW Cont. Proj. Dec. 1-15).

Boll Weevil Hibernation Survey - VIRGINIA - Between November 18 and December 1, 200 square yards of surface woods trash were examined from 20 farms in three counties. Ten farms sampled in Southampton County showed boll weevils ranging from zero to 7,744 per acre with average of 2,759 per acre. Five farms sampled in Brunswick County had 968 to 4,356 weevils per acre with average of 2,130 per acre. In Mecklenburg County five farms sampled had zero to 968 per acre with average of 484 per acre. The average number per acre for all of the samples taken in Virginia was 2,033 . (This is the first year that trash samples have been collected in the fall in Virginia).

The following records were made on other insects found in surface woods trash during these examinations. In Southampton County, bean leaf beetles (Cerotoma trifurcata) were found in trash collected from 7 farms with 1 to 6 beetles being found per 10 square yards of trash. Lady beetles were found in trash collected from 8 farms with 1 to 17 per 10 sq. yds. . of trash. In Brunswick County one bean leaf beetle and one lesser clover leaf weevil (Hypera nigrirostris) were taken in 10 square yards of trash. In Mecklenburg County bean leaf beetles were found in trash collected from 2 farms at rates of 1 and 2 beetles per 10 square yards. (Cotton Ins. Sect., V.P.I. Ext., and Va. State Ent.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - VIRGINIA - Attacking a 35 to 40-acre tract of shortleaf and Virginia pines in Buckingham County. (Morris, Dec. 10-17).

ENGRAVER BEETLES (Ips spp.) - TEXAS - Light local infestation of longleaf and shortleaf pines in Newton County, attacking mature trees. (Davenport).

SAN JOSE SCALE (Aspidiotus perniciosus) - MINNESOTA - Village of Nicollet surveyed during week of December 13 for buildup of this scale on trees and hedges. Infested plants to be sprayed or destroyed in spring. (Graeber).

STORED-PRODUCTS INSECTS

A FUNGUS BEETLE and SAW-TOOTHED GRAIN BEETLE - TEXAS - Light local infestation on stored oats in Belton. (McDanel).

RECENT IMPORTANT INTERCEPTIONS AT PORTS OF ENTRY

A living adult scolytid, Phloeotribus scarabaeoides (Bern.), was recently intercepted in baggage at the Port of New York in olive cuttings from Italy. (Mahaney). This species has been taken at least five times in the past five years in olive propagating stock as well as in twigs and branches accompanying olive fruits themselves. This beetle is said to be one of the most important pests of the olive in the Mediterranean region where it attacks young plantations as well as old groves. Young trees are often killed during gallery formation by the larvae in the sapwood while older trees suffer a reduction in yield of fruits. P. scarabaeoides has been reported attacking ash and lilac in addition to olive. (Ramsay - Plant Quarantine Branch).

SUMMARY OF INSECT CONDITIONS - 1954

TEXAS

Reported by G. T. Davis, Jr. *

This summary is for the period of November 1, 1953 to November 1, 1954.

Cereal and Forage Insects

Light infestations of a WINTER GRAIN MITE (Penthaleus major) began to show up about the middle of November over central and north-central Texas. These infestations continued to build up and spread until a large portion of the small grain growing area had medium to heavy populations. The heaviest infestations appeared in fields that had been in small grains, especially oats, continuously for several years. Infestations were found in the following counties: McLennan, Coryell, Falls, Johnson, Hill, Tarrant, Rockwall, Palo Pinto, Erath, Lampasas, Bell, Kaufman, Van Zandt, Dallas, Bexar, Kendall, Kerr, Denton, Ellis, Cooke, Collin, Wise, Hunt, Jack, Wilbarger and Foard. Larger acreages were treated for this pest than ever before. BROWN WHEAT MITE (Petrobia latens) was not considered a problem on small grains during the past year. Very light infestations were found in Denton, Sherman, Hansford, Hardeman and Gray Counties during February and March. Slightly heavier infested fields were found in Foard and Wilbarger Counties. GREENBUGS (Toxoptera graminum) were of little or no economic importance on small grains. Fields with an occasional infestation were found in Moore, Randall, Kerr, Kendall, Sherman, McLennan, Travis, Bexar, Ellis and Deaf Smith Counties during December through April.

CORN EARWORM (Heliothis armigera) caused heavy damage to corn, grain sorghums and forage crops over the State. This pest was present all during the growing season and depending on the available food supply acted as a general feeder on the buds, heads and ears. This insect probably caused more damage to corn and grain sorghums than any other single species because of its general State-wide occurrence. Considerable damage to forage crops such as vetch, alfalfa and clovers also occurred.

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* C. R. Parencia supplied the summary of cotton insect conditions.

FALL ARMYWORMS (Laphygma frugiperda) caused considerable damage to corn and grain sorghums by acting as an earworm, headworm and budworm. Many immature ears of corn were entered at the base and greatly damaged if not completely destroyed. Following this activity the stalk was often attacked causing some breakage. Damage was widespread over State with many infested fields running as high as 70 to 80 percent infested stalks. Considerable damage was done to pastures, legumes and small grains in September and October. LESSER CORNSTALK BORER (Elasmopalpus lignosellus) caused widespread heavy damage to peanuts in Comanche, San Saba, Erath and Llano Counties. Damage this year has been heavier and over larger areas than in past years. Heavy damage to cowpeas and mung beans in Hardeman and Wilbarger Counties. Mostly medium to heavy widespread infestations of GRASSHOPPERS (many species) occurred over much of Texas from May through July. More damage this year than during any past several years. Reports of damage received from 56 counties in Texas. Other insects reported in damaging numbers, as spotted local infestations, were leafhoppers, southern corn rootworm, chinch bugs, corn leaf aphid, cutworms, pea aphid, armyworms, english grain aphids, aphids, alfalfa caterpillar, cabbage looper, thrips, false chinch bugs, spotted cucumber beetle, green cloverworm, salt-marsh caterpillar, spittlebug, lygus bugs, seed-corn maggot, flea beetles, webworms, wireworms, spider mites, stink bugs, darkling beetles, sorghum webworm, white grubs and alfalfa loopers.

A summary of SOUTHWESTERN CORN BORER (Diatraea grandiosella) and SUGARCANE BORER (D. saccharalis) will be carried in another issue of the Cooperative Economic Insect Report.

Fruit Insects

Alarming build-ups of SAN JOSE SCALE (Aspidiotus perniciosus) occurred in the eastern part of the State on peaches and plums. Infestations are extremely low at present, considering the large populations at the beginning of the season. PLUM CURCULIO (Conotrachelus nenuphar) has been of very little importance this year on peaches and plums. This is the third year that damage has been negligible.

CATFACING INSECTS caused practically no damage to peaches. Possibly 2 to 3 percent of fruit was infested but damage was so insignificant that it had no effect on marketing of fruit. Severe infestations of PEACH TREE BORER (Sanninoidea exitiosa) and LESSER PEACH TREE BORER (Synanthedon pictipes) occurred, particularly in poorly cared for peach orchards in the eastern part of the State. Heavy early infestations of PEACH TWIG BORER (Anarsia lineatella) occurred in peach orchards in Stephenville area. Damage negligible crop lost because of cold weather. Other insects that occurred light to medium locally on peaches and plums were: plum gouger, eastern tent caterpillar, cigar casebearer, aphids and a geometrid. PECAN NUT CASEBEARER (Acrobasis caryae) caused unusually heavy damage to the pecan crop, estimated 75 percent of crop lost. Other pecan pests found in light to medium spotted local infestations were: pecan leaf casebearer, pecan phylloxera, pecan bud moth, black pecan aphid, twig girdler, carpenterworm, spinach flea beetle and a sawfly larva. Light to medium local infestations of CODLING MOTH (Carpocapsa pomonella) and APHIDS occurred on apples. There were medium to heavy general infestations of GRAPE LEAFHOPPER and light to medium local infestations of GRAPE LEAF FOLDER (Desmia funeralis) and GRASSHOPPERS on grapes. Citrus orchards in the Rio Grande Valley had mostly light to medium scattered local infestations of the following insects: Citrus red mite, chaff scale, citrus rust mite, California red scale, citrus whitefly, false chinch bug, glover scale, and orange dog.

Truck Crop Insects

CORN EARWORM (Heliothis armigera) probably did more damage to truck crops than any other single species because of its various feeding habits and general occurrence over the State. Sweet corn received the usual damage from this pest as control measures are too expensive and time consuming to be of practical value under normal circumstances. The damage as FRUITWORMS on tomatoes was possibly a little lighter this year than last. Damaging infestations occurred on lettuce in the Rio Grande Valley, Winter Garden and Muleshoe areas. Mostly medium to heavy infestations of CABBAGE LOOPER (Trichoplusia ni) in vegetable growing areas caused considerable damage where not controlled. Plants most affected were lettuce, cabbage and turnips. Light infestations on cucumbers reported in Rio Grande Valley. Heavy infestations of a SERPENTINE LEAFMINER (Liriomyza sp.) occurred in seed beds of tomatoes, peppers and lettuce. Medium to heavy field infestations appeared in tomatoes, peppers, lettuce and cantaloupes. Most economic damage confined to the Rio Grande Valley; however, light infestations were observed in other vegetable growing areas. Curly top, transmitted by BEET LEAFHOPPER (Circulifer tenellus), caused heavy losses on tomatoes, garden beets and sugar beets in the Plains and Panhandle areas. Some damage also on spinach in the Winter Garden area. Several unidentified species of LEAFHOPPERS caused damage to black-eyed peas, carrots, mustard greens, cabbage, cantaloupes, tomatoes,potatoes, beets, and beans in local infestations over the State.

SQUASH BUGS (Anasa tristis) damaged squash, pumpkins, watermelons and canteloupes in localized areas of Anderson, Victoria, Yoakum, Shackelford and Brazos Counties. Heavy infestations of ONION THRIPS (Thrips tabaci) in practically all untreated fields in onion-growing areas caused much damage to this crop. WIRE WORMS in localized infestations caused damage to carrots and watermelons in the Rio Grande Valley and to watermelons in Duval, Brooks and Atascosa Counties. Huge populations of FALSE CHINCH BUG (Nysius sp.) migrated from wild host plants which dried up due to the drought, damaged practically all green crops in the southern third of Texas from January through April. CUTWORMS of several species caused damage to practically all vegetable and garden crops over the State. Other insects reported as localized damaging infestations on truck and garden crops were: sweetpotato weevil, seed-corn maggot, aphids, pepper weevils, hornworms , darkling beetles, cucumber beetles, flea beetles, tomato psyllid, yellow-striped armyworm, vegetable weevil, thrips, white-flies, a mirid (Labopidea geminata), harlequin bug, stink bugs, grasshoopers, blister beetles, tomato suckfly, garden webworm, red lettuce aphid, diamondback moth, lygus bugs and melonworm.

Cotton Insects

Insect damage to cotton in the State generally was not severe principally because of extreme drought conditions which occurred during most of the growing season in central, eastern and western areas. In irrigated fields and in areas in which moisture conditions were favorable for insect development, damage from certain insects was heavy when control measures were not used. CUTWORMS (several species) destroyed stands of cotton in a few fields in Maverick, Dimmit, Bee, Live Oak, Austin and Harrison Counties. WIREWORM (reported to be false wireworm) infestations were sufficiently heavy to cause loss of stand in some fields in Lubbock and Lamb Counties during May. GARDEN WEBWORM (*Loxostege similalis*) damaged stands in some fields in which cotton had been planted on weedy seed beds in Lubbock and Crosby Counties during May. Injurious THRIPS (*Frankliniella* spp.) infestations occurred in the eastern third of the State with the most general and heaviest infestations in the uppercoastal, central, north central and northeast areas. Infestations were generally light in southern and western areas. COTTON APHID (*Aphis gossypii*) infestations early in the season were severe in the coastal bend, northwest and Plains areas and were present in many fields in all areas in the eastern third of the State. Late-season infestations were found in occasional fields in most areas.

COTTON FLEAHOPPER (*Psallus seriatus*) infestations were generally heavy in the Plains areas and injurious infestations occurred in occasional fields in most other areas. TARNISHED PLAT BUG (*Lygus lineolaris*) populations in injurious numbers occurred in a few fields in Lubbock, Gaines, Bailey, Floyd and Terry Counties in the Plains areas. DIFFERENTIAL GRASSHOPPER (*Melanoplus differentialis*) damage was more extensive in the eastern third of the State and in the northwest and Plains areas than during several previous years. Heavy infestations of a LEAF MINER (*Liriomyza sp.*) were found in some fields in the central area and light general infestations occurred in most other drought areas. CABBAGE LOOPER (*Trichoplusia ni*) caused some damage in the lower Rio Grande Valley area. Light infestations appeared in the Plains area. General injurious infestations of a BROWN COTTON LEAFWORM (*Acontia dacia*) occurred in the Brazos River Bottom of Brazos, Burleson and Robertson Counties and in a very few fields in Wharton and Matagorda Counties. This pest was previously collected on cotton in Wharton, Robertson and Austin Counties during 1953 but no injurious infestations were reported during that season.

Winter survival of the BOLL WEEVIL (Anthonomus grandis) was high and heavy populations of this insect were found early in the season in the eastern third of the State. Drought conditions were unfavorable for the development of general injurious infestations in these areas and damaging infestations occurred in very few fields. Injurious infestations became general in late-fruiting fields in the lower Rio Grande Valley area during late June and July, in irrigated fields in some counties in the southwest area, and in the upper coastal and south central areas where late summer rains occurred. Because of unfavorable weather conditions, damage from this insect in the State was less extensive than during many previous years. BOLLWORM (Heliothis armigera) infestations were generally light with injurious infestations in scattered fields in most areas. The drought in the upper portion of the eastern third of the State confined infestations to scattered irrigated or other succulent fields. Injurious infestations occurred in irrigated sections of the southwest, Plains and far west areas. The first COTTON LEAFWORMS (Alabama argillacea) of the season were found in Cameron County on May 31. The insect was not found beyond the lower Rio Grande Valley counties until July 26 and 27 when larvae were collected in Burleson and Presidio Counties. Between August 2 to 10, larvae were found in scattered counties in central, northwest and Plains areas. Control measures for the insect were used in scattered fields in irrigated areas during August and September.

SPIDER MITE infestations were more general than normal early in the season in coastal bend and upper coastal areas and occurred in some fields as far north as McLennan County. Late infestations sufficiently heavy to warrant control measures were found in scattered fields in most areas of the State. PINK BOLLWORM (Pectinophora gossypiella) damage to cotton was light with injurious infestations being confined to late-fruiting fields in certain areas. The thorough early destruction of stalks in the southern portion of the State resulted in a low carry-over during the winter of 1953-1954 and a generally light infestation during the season. Although initial infestations in the central area were generally heavier than in previous years, drought conditions were unfavorable for development of heavy general infestations. Infestations, howerver, became heavy in some irrigated and other late-fruiting fields during late summer and fall.

Stored Products Insects: Stored grain pests have increased greatly in importance because of the large amount of grains now in storage. The insects of economic importance in the order of their importance in Texas are: Rice weevil, A rice moth (Corcyra cephalonica), lesser grain borer, Indian-meal moth, bran beetles including flat grain beetle, confused flour beetle, saw-toothed grain beetle and a fungus beetle (Typhaea sterocorea). VETCH BRUCHID (Bruchus brachialis) is of very little economic importance but should be considered because of the rapid increase during the past two years in north Texas. MEALYBUGS have been of local concern in several areas on farm-stored Irish potatoes.

Forest, Ornamental and Shade Tree Insects: Large populations of TURPENTINE BEETLES (Dendroctonus spp.) went into hibernation last year in east Texas and were expected to cause considerable damage to pines this year. Medium to heavy infestations were reported from Newton, Cass, Liberty, Montgomery, Walker, San Jacinto, Liberty and Hardin Counties from May through August. In September and October reports indicated that these pests had caused scattered mortality to pines from Nacogdoches County east and south. Heavy infestations of IPS BEETLES in Newton and Cass Counties during June possibly helped the turpentine beetles cause mortality to pines. Ips were very active in east Texas during the summer and fall and were worse in areas that had been burned by wildfires, causing more mortality throughout the entire area. Medium infestations of ips and turpentine beetle adults on short leaf and loblolly pines, were found in Cherokee County during October, attacking all parts of the tree.

Heavy infestations of ENGRAVER BEETLES caused mortality of pines severely injured by wildfires in Newton, Jasper, Hardin and Polk Counties. PALES WEEVIL (Hylobius pales) infested approximately 50 percent of the year-old seedlings of shortleaf and loblolly pines in the Nacogdoches area causing some mortality. Infestations of SPIDER MITES caused browning of leaves on shortleaf pine and oaks in Cass, Camp and Cherokee Counties. SOUTHERN PINE BEETLES (Dendroctonus frontalis) were not found in Texas during the past year. Heavy local infestations of PINE SAWFLIES on loblolly pines caused defoliation in small areas of San Augustine and Liberty Counties. COLASPIS BEETLES (Colaspis pini) defoliated loblolly and slash pine in lower Jasper and Newton Counties but did not cause mortality. ELM LEAF BEETLE (Galerucella xanthomelaena) was reported for the first time in Texas on ornamental elm in Austin. TEXAS LEAF-CUTTING ANTS (Atta texana) are preventing the establishment of pine seedlings by either natural or plantation methods in Nacogdoches, central Jasper and eastern Shelby Counties. PINE WEBWORM (Tetralopha robustella) was confined to young trees in Nacogdoches and Cherokee Counties. Spotted infestations of cottony cushion scale, a tea scale (Fiorinia sp.) terrapin scale, oleander scale and Kermes spp. occurred in damaging infestations on various ornamentals over State. Several species of APHIDS caused damage to ornamentals over State, especially heavy on roses and quince. Heavy populations of WHITE-LINED SPHINX (Celerio lineata) migrated from pastures and fence rows into commercial plantings of roses in Smith and Cherokee Counties and completely defoliated some of the smaller fields and the outside edges of larger fields. Damage by BAGWORMS (Thyridopteryx ephemeraeformis) to arborvitae was normal. ROUND- and FLATHEADED BORER occurrance in ornamental trees and shrubs increased again this year. The past few years have been so dry over most of the State that many trees are in a weakened condition and ideal for borer attack.

Insects Affecting Man and Animals
CATTLE GRUBS (Hypoderma spp.) were somewhat lighter than normal in parts of east Texas but heavier than usual in other areas. The Kerrville area had heaviest infestation in years. This pest is no longer the seasonal problem it has been in years gone by in Texas. Grubs have been found in backs of cattle during practically every month from June to June. A "SCREW-WORM Survey in the Southwest" was published in CEIR, Vol. 4, No. 31. Apparently, hot dry weather helped to check the early start of this pest and no more damage than usual occurred. Infestations of CATTLE LICE and HOG LICE were normal over State. Heavy infestations of HORN FLIES (Siphona irritans) built up in spring but decreased somewhat during hot dry summer in most areas. In general, lighter than usual. HOUSE FLIES (Musca domestica) caused much concern, especially in dairy barns and individual cage-laying houses throughout State.

Spotted heavy infestations of TABANIDS occurred over Texas. EAR TICK (Otobius megnini) has been moving eastward for past several years and is now apparently established over most of the State. Some heavy infestations have been observed during the past year. Most heavy general infestations are still in the western half of State; however, several heavy infestations have been reported in the northeast area near Texarkana. TICKS in general were lighter than normal. Light to medium infestations of BLOODSUCKING CONENOSE BUGS (Triatoma spp.) were reported from Nueces, Caldwell, Milam and Hill Counties attacking humans, dogs and chickens. Scattered medium to heavy infestations of FLEAS occurred around homes, poultry houses and barns. Apparently, many FLEAS are building up resistance to chlorinated hydrocarbon insecticides. Roaches, silverfish, termites and clothes moths continued to be the most important household pests. Roaches caused considerable concern because of resistance to chlorinated hydrocarbon insecticides.

SUMMARY OF INSECT CONDITIONS - 1954

WISCONSIN

Reported by E. L. Chambers

Cereal and Forage Insects

CORN EARWORM (*Heliothis armigera*) again holds first place as a corn pest appearing much more abundant than usual and causing widespread damage to sweet corn, field corn and other crops. GRASSHOPPER populations have been building up over most of the State. Serious damage resulted in 1954 in a dozen north central counties where drought conditions favored developments and egg surveys reveal a potential threat over much of the State next summer. EUROPEAN CORN BORER (*Pyrausta nubilalis*) the population of which has been on a continued decline since 1949 showed only a very slight increase in average, 28 borers per 100 stalks this year. Considerable stalk breaking was experienced in eastern and north central counties. ARMYWORMS (*Pseudaletia unipuncta*), extremely destructive in half a dozen counties in 1953, appeared abundant in many counties of the State this year but were brought under control by their natural enemies in most cases before large scale control programs were put into action. WHITE GRUB infestations were unusually heavy throughout the State causing serious damage to corn, truck crops and small fruit plantings. MEADOW SPITTLEBUG (*Philaenus leucophthalmus*) continued to be one of the most serious pests to hay and small fruit plantings.

Man and Animal Insects

One of the most serious problems confronting the entomologists in the State was farm dairy fly control. Another fly problem which attracted state-wide attention and which proved extremely annoying to man in a dozen northwestern counties was a sarcophagid fly (*Sarcophaga aldrichi*). Population built up in enormous swarms because of a heavy forest tent caterpillar infestation.

Truck Crop Insects

POTATO LEAFHOPPER (*Empoasca fabae*) has become one of the major pests not only to potatoes, alfalfa and beans but to small fruits and other crops.

Fruit Insects

APPLE MAGGOT (Rhagoletis pomonella) was more abundant and destructive than usual in 1954 and created a serious hazard because of the many neglected and improperly sprayed farm orchards in commercial growing areas.

Forest Insects

The most serious forest pest appeared to be the FOREST TENT CATERPILLAR (Malacosoma disstria) which infested a dozen counties in the important tourist area of northwestern Wisconsin. While natural enemies appeared to have reduced the population in the extreme northern area after three years' damage, the pest is gradually spreading southward.